



Safety
planning
information
for neighbors
of FPL's
St. Lucie
Nuclear
Plant

2001



FPL
P.O. Box 029100
Miami, Florida 33102

Important
Emergency
Safety
Information
Please Save

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(2001 Edition)

This booklet was prepared by
Florida Power & Light
Company in cooperation with
the St. Lucie County
Department of Public
Safety, Martin County
Division of Emergency
Management and State of
Florida, Department of
Community Affairs, Division
of Emergency Management.

For additional copies,
write or phone:

**St. Lucie County Department
of Public Safety**
101 North Rock Road
Ft. Pierce, FL 34945
Telephone: 461-5201

or

**Martin County Division of
Emergency Management**
6000 Southeast Tower Dr.
Stuart, FL 34997
Telephone: 287-1652

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How safe is FPL's St. Lucie plant?

Safety is FPL's top priority in operating the St. Lucie nuclear plant. Extra care and time are taken to ensure safety

regulations are met and even exceeded.

Nuclear energy production also is monitored closely by the Nuclear Regulatory Commission, a federal government agency. Daily inspections are conducted on-site at St. Lucie to guarantee compliance with federal regulations on public health, safety and the environment.

Safe and reliable service is maintained through a variety of backup safety measures. Several identical safety systems are in place so that if one fails, others automatically go to work.

Multiple barriers for safety:

Additionally, the St. Lucie plant is constructed with multiple safety barriers that keep radioactive materials in control and out of the environment. (For further information on how St. Lucie operates, see page 10.)

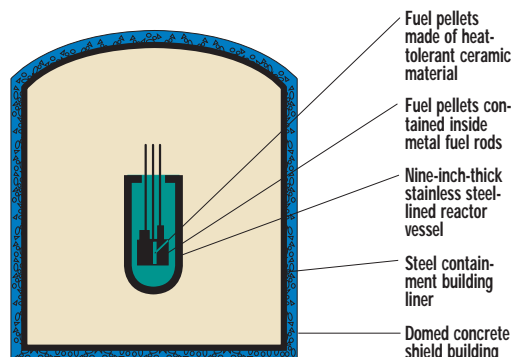
The uranium fuel is encased in half-inch long, cylindrical ceramic pellets. These pellets are stacked end-to-end inside sealed metal tubes that are resistant to corrosion, radiation and heat. These fuel tubes are part of a fuel assembly which is immersed in water in the reactor core. The core is inside a steel pressure vessel that is nine-inches thick.

All this is shielded inside a containment building made of concrete more than three-feet thick, laced with steel rods

and lined with a steel wall. Containment buildings are designed to withstand severe external forces such as hurricanes, tornadoes and earthquakes.

Safety is further enhanced by the fact that nuclear reactors cannot explode like an atomic bomb. The concentration of uranium fuel used at St. Lucie is simply too low to produce a nuclear explosion.

Multiple barriers for safety



Why is there an emergency plan?

Planning is an important part of FPL's strategy to protect you and your family

in the unlikely event of an emergency at St. Lucie.

State and local officials, together with FPL, have prepared a detailed emergency plan for people who live, work or go to school within 10 miles of the plant. The plan is tested by actual evaluated exercises and inspections.

Save this booklet and share it with family members. It is your guide to the plan and its safety features. Please read it carefully and study the map at the back. Make sure you and your family know what to do in an emergency.

Classifications of nuclear plant events

The four terms below are used to describe events at nuclear plants. Only two may involve public actions such as staying inside your home, leaving the area or going to a specified shelter. FPL notifies county, state and federal authorities in each of the following situations. **You should know these terms:**

An **Unusual Event** is a minor incident such as severe weather. Because of strict regulations, a number of events must be classified and reported as "unusual events" even though they pose no threat or danger to you. *No public action is required.*

An **Alert** is a minor incident, that affects or could potentially affect reactor safety. There is the possibility of a small, limited release of radioactive material, but there would be no danger to you. *No public action is required.*

A **Site Area Emergency** is a more serious incident such as: a major leak from the reactor coolant system; a fire in a safety system; or an incident in which radioactive releases are possible or are occurring that will not affect the off-site population. Sirens would sound, alerting you to tune to local radio or television stations (*see page 5*) for official information and instructions.

A **General Emergency** is the most severe emergency classification. Radioactive releases which could affect the off-site population are possible or are occurring. Sirens would sound, alerting you to tune to one of the local radio or television stations (*see page 5*) for official information and instructions.

After notifying the county, state, and federal authorities, FPL officials would continue to address any problems. State and county authorities are responsible for notifying area residents and taking steps to ensure public protection.

What is an emergency planning area?

Federal authorities established two emergency planning areas, a 10-mile radius and a 50-mile radius—as the basis for planning to protect the public.

Residents living within 10 miles of the plant will be protected from direct exposure to radiation in the unlikely event of an accident. People living within 50-miles will be protected from eating contaminated foods, or drinking contaminated milk and water.

The 10-mile area has been divided into eight evacuation/sheltering areas (see pages 12-15 and the map in this booklet). These areas were established to allow local officials to provide evacuation and/or sheltering information in terms readily understood by persons in the 10-mile area.

If there was an accident at the St. Lucie plant, it's not likely everyone within 10 miles would be involved. The area affected would depend on weather conditions, such as wind speed and direction, and the severity of the accident.

How you would be notified of an emergency

In the event of a serious emergency, emergency management, law enforcement and fire/rescue officials may use a variety of methods to notify people living within 10 miles of the plant:

- Sirens
- Emergency Alerting System (EAS) (Radio/TV)
- Emergency vehicle loudspeakers
- Door-to-door notification

If you hear an outdoor warning siren:

Hearing a siren **does not** necessarily mean to evacuate. **When an outdoor warning siren is sounded it is your signal to tune to local radio or television stations listed below for further instructions.** Through these broadcasts, emergency management officials will provide you accurate, timely information.

AM RADIO

- WJNX-1330
- WSTU-1450*
- WIRA-1400
- WPSL-1590*

FM RADIO

- WQCS-88.9*
- WKGR-98.7
- WZZR-92.7
- WHLG-101.3
- WGYL-93.5
- WAVW-101.7
- WOVV-95.5
- WQOL-103.7
- WOSN-97.1
- WFLM-104.7

TELEVISION**

- WPTV-CH 5
- WPEC-CH 12
- WPBF-CH 25
- WFLX-CH 29
- WTVX-CH 34
- WTCN-CH 16*

* Emergency Alerting System station.

**Please consult your area cable listing for these channels

In an emergency, sirens will sound for at least five minutes. If possible, alert your neighbors by means other than a telephone

to ensure that they also heard and understood the emergency information and instructions.

Periodic siren tests conducted by local emergency management officials last two minutes or less. During these tests, you will hear a voice introduction, then the sirens will sound a short tone followed by a voice stating that this is a test.

Occasionally, a siren may accidentally sound because of lightning strikes or other problems. If you hear a siren and have a question, call your local county emergency management office listed below.

Telephone numbers

In the event of an emergency, state and county officials are responsible for public notification and will provide timely and accurate information. If you have questions at **any** time, call:

• **St. Lucie County Public Safety Department 461-5201**
(after business hours or on weekends, call 465-5770).

• **Martin County Division of Emergency Management 287-1652**

For your protection

State and local governments have established strict guidelines to ensure your safety in the unlikely event of an emergency at the St. Lucie plant. Emergency officials will provide timely, accurate information and instructions. Please follow official instructions.

If you are told to stay indoors (in-place sheltering)

- Remain indoors until further notice.
- Close all doors and windows.
- Turn off all window fans. Unless instructed otherwise, leave air conditioning on.
- Cover or refrigerate any uncovered food.
- Stay tuned to a local radio or television station (*see page 5*) for official information.
- Toiletries (bar of soap, tooth brush, toothpaste, shaving articles, eye care and sanitary items).
- Money (cash, credit cards) and important documents.
- Baby needs (formula, diapers, favorite toys).
- Sleeping bag or two blankets and a pillow for each person.
- Folding cot or lawn chair.

Listen to a local radio or television station (*see page 5*)

Emergency officials will tell you what to do. Follow all evacuation directions. Remain calm.

- **St. Lucie County:** Residents living north of PrimaVista/St. Lucie West Boulevard will be directed to reception centers in Indian River County and possibly Brevard County. People living south of Prima Vista/St. Lucie West Boulevard will be directed to reception centers in Palm Beach County.

If you are told to evacuate, take this booklet

- Lock all doors.
- Turn off appliances (except refrigerator) and faucets.
- Leave pets inside your home with plenty of food and water. DO NOT take pets to a reception center or shelter. Animals will not be allowed into shelters.
- **In addition to this booklet, take the following items with you:**
- Clothes for a few days.
- Medicine or prescriptions you may need.

- **Martin County:** Residents will be directed to reception centers in Palm Beach County. Vehicle check-points will be established at the following locations:

- 1) U.S. 1 at Jonathan Dickinson State Park
- 2) I-95 at the Martin/Palm Beach County line
- 3) Florida Turnpike at the Martin/Palm Beach County line

- Law enforcement officers will be stationed along evacuation routes to assist and direct you to reception centers. These centers are designed to provide adequate food, facilities and telephones for you.

If you have special needs or require evacuation assistance

- Fill out the attached postcard corresponding to your resident county and mail it immediately for special assistance in an emergency, if you:
 - 1) are on life-support systems.
 - 2) have a physical or mental impairment.
 - 3) are hearing impaired.
 - 4) are elderly or homebound and can't leave your home.
 - 5) do not have transportation or don't drive.

- Evacuation transportation and special facilities will be arranged for **St. Lucie County** residents with special needs. Local radio and television stations (*see page 5*) will announce facility locations.
- If you live in **Martin County**, the special needs shelter is located at Challenger School, 5150 SE Willoughby Blvd., Stuart, FL 34997.

If you have a family member in a nursing home or hospital

- These facilities follow their own evacuation procedures, so please do not try to pick up your family member.
- Check with these facilities in advance.

If your children are in school

The following schools are located in the emergency planning area for the St. Lucie nuclear plant. The schools will follow their own evacuation procedures. As a precaution, the evacuation of schools may be considered prior to any general public action.

If your child's school is in the 10-mile emergency planning area and not listed, check with the school to verify its evacuation plans.

St. Lucie County Schools

Children attending St. Lucie County schools north of Edwards Road will be transported by buses to the St. Lucie County Fairgrounds, 4000 St. Lucie Blvd. Students attending schools south of Edwards Road will be bused to the Thomas J. White Stadium, 525 NW Peacock Blvd., Port St. Lucie.

Local radio and television stations (see page 5) will announce when parents may pick up their children.

School personnel will supervise and care for children until parents can pick them up.

Schools north of Edwards Rd.

- Anglewood Center
- C.A. Moore Elementary
- Dale Cassens School
- Dan McCarty Middle School
- Fairlawn Elementary
- Fort Pierce Elementary
- Fort Pierce School of the Arts
- Fort Pierce Westwood High
- Francis K. Sweet Elementary
- Garden City Elementary
- John Carrol High School
- Lakewood Park Elementary
- Lawnwood Elementary
- Lincoln Park Elementary
- Palm Vista Christian
- St. Anastasia Elementary
- St. Andrews Elementary
- St. Lucie Elementary
- Woodlands Academy

Schools south of Edwards Rd.

- Bayshore Elementary
- Calvary Academy
- Faith Baptist School
- Floresta Elementary
- Forest Grove Middle School
- Fort Pierce Central High
- Manatee Elementary
- Mariposa Elementary
- Morningside Academy
- Morningside Elementary
- Northport Middle School
- Parkway Elementary
- Port St. Lucie Elementary
- Port St. Lucie High School
- Port St. Lucie West Centennial High School
- Rivers Edge Elementary
- Sampson Memorial Seventh Day Adventist School
- Savannah Ridge Elementary
- Southern Oaks Middle School
- Southport Middle School
- St. Lucie West Middle

- Village Green Elementary
- Weatherbee Elementary
- White City Elementary
- Windmill Point Elementary

If your children attend these schools, please do not try to pick them up at the school.

Martin County Schools

Children in these Martin County schools will be transported to a special reception center at Martin County High School, 2801 S. Kanner Highway, Stuart, or to the alternate reception center at South Fork High School, 10205 SW Pratt Whitney Road, Hobe Sound. **Local radio and television stations (see page 5) will announce when and where parents may pick up their children.** School personnel will supervise and care for the children until parents can pick them up.

Schools in Martin County that may be affected

- Appletree Elementary
- Blakely Child Development
- Environmental Studies Center
- Hibiscus House
- Jensen Beach Community Church Preschool
- Jensen Beach Elementary
- New Creations
- Presbyterian Early Learning School

- Prince of Peace Preschool
- St. Andrews Preschool
- Self-Discovery Learning Center
- Small World Learning Center
- Trinity United Methodist Preschool
- Felix A. Williams Elementary

If you have livestock

- Place the animals in an enclosed shelter if possible. Provide for adequate ventilation to prevent overheating and suffocation.
- Leave plenty of water and food for several days (if you are told to evacuate).
- Use stored feed when possible.
- Tune to a local radio or television station and listen for further instructions and information (see page 5).

If you grow food products

- Do not eat or sell products until further instructions are issued by agricultural officials.
- Tune to a local radio or television station (see page 5) for additional instructions and information.

For more information, contact your local agricultural extension agent and ask for the brochure titled, "Agriculture and Nuclear Power in Florida."

How St. Lucie power plant works

St. Lucie nuclear plant is similar to fossil-fired electric generating plants because it uses steam to generate electricity. But instead of burning oil or coal in a boiler, St. Lucie uses uranium fuel inside a nuclear reactor.

Here's how it works:

Uranium atoms are split apart in a process called nuclear fission. As more and more atoms split inside the reactor, a large amount of heat is produced. This heat is absorbed by the first of three separate water systems in the plant called the *primary system*.

The primary water system is kept under pressure so that it does not boil. It passes through thousands of tubes in the plant's steam generator where the heat is transferred through the tube walls to another water system called the *secondary system*.

The heat turns water in the secondary system to steam.

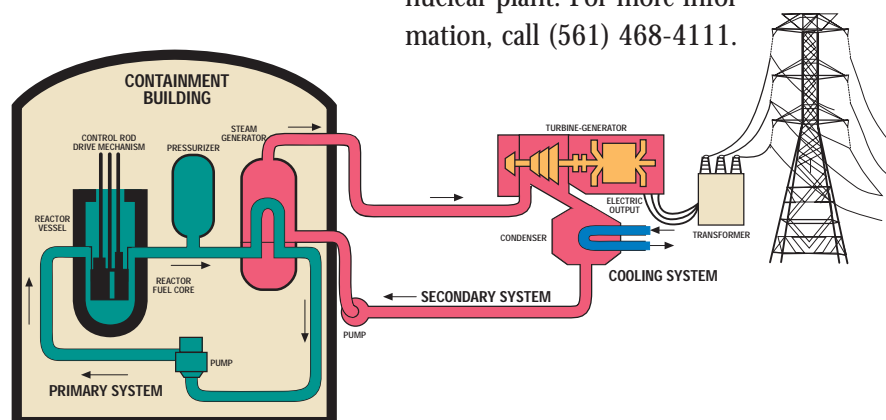
The steam pushes against the blades of a turbine, causing it to spin.

The turbine turns a generator on the same shaft to produce electricity.

As the steam leaves the turbine, it passes over hundreds of pipes carrying water from the third water system called the *cooling system*. Cooling water from the Atlantic Ocean condenses the steam back to water for reuse in the steam generator. Water from each system is physically separated from water in the other systems.

You can learn more about nuclear energy at the Energy Encounter, FPL's energy information center at St. Lucie nuclear plant. For more information, call (561) 468-4111.

How St. Lucie nuclear plant works



Radiation: A part of every-day life

Radiation is energy that is given off as a particle or wave. It is everywhere and can be both natural and man-made.

Radioactive elements are scattered in small amounts throughout our environment. About 82% of the radiation to which the average person is exposed annually in the United States comes from natural sources: our food, water, soil — even our homes. Additional radiation comes from exposure to man-made sources such as dental and medical X-rays, color televisions, computer monitors and smoke detectors. Less than *one percent* of radiation to which people are exposed comes from nuclear power plants.

Measuring radiation

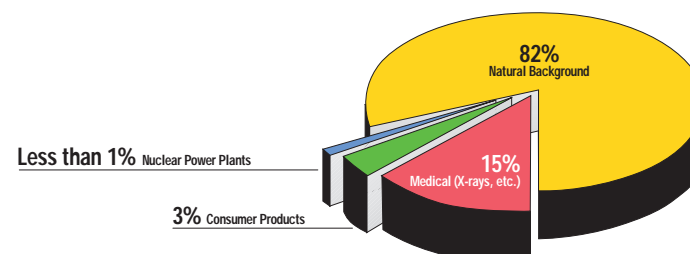
Radiation is measured in units called *rem* and *millirem* (one rem equals 1,000 millirem). Most people routinely receive an average of 360 millirem of background radiation a year from all sources. A coast-to-coast jet trip results in about five millirem of radiation exposure. Living and working one mile from a nuclear power plant — 24-hours a day for a whole year — results in only one-half of one millirem of exposure.

How is radiation monitored at St. Lucie?

Monitoring is done by FPL, state and federal agencies. Numerous measuring devices have been placed in and around the St. Lucie nuclear plant to monitor radiation levels. These instruments can detect minute amounts of natural background radiation.

If there were any increase in those radiation amounts, this constant monitoring would alert plant operators, who in turn, would notify state and county government officials.

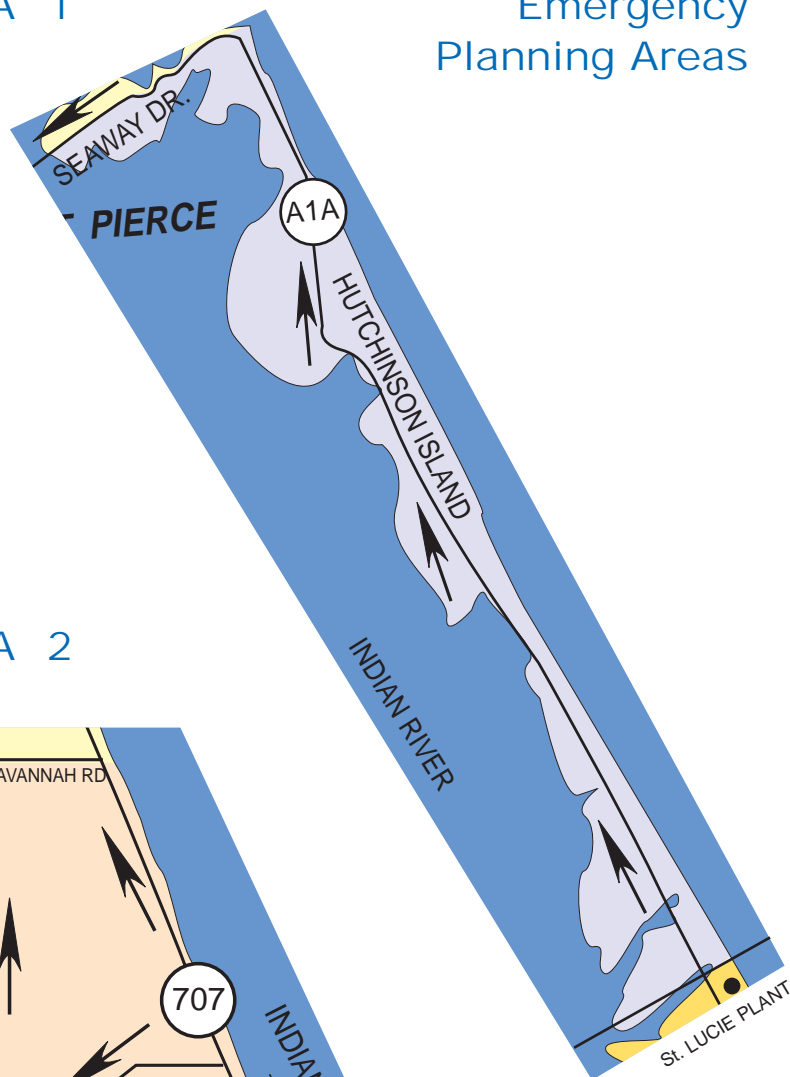
Natural Background (Soil, sunlight, etc.)	82%
Medical (X-rays, etc.)	15%
Consumer Products (T.V., smoke detectors, etc.)	3%
Nuclear Power Plants	Less than 1%



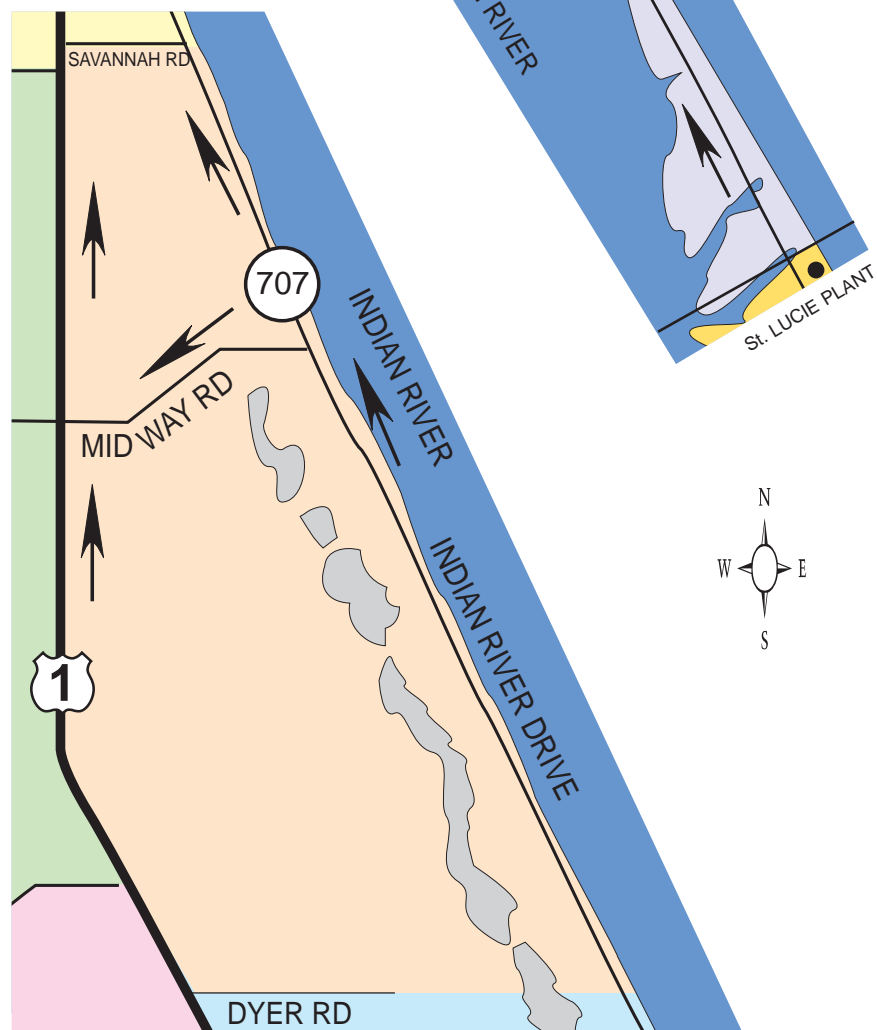
Sources of radiation

Source: National Council on Radiation Protection Measurements

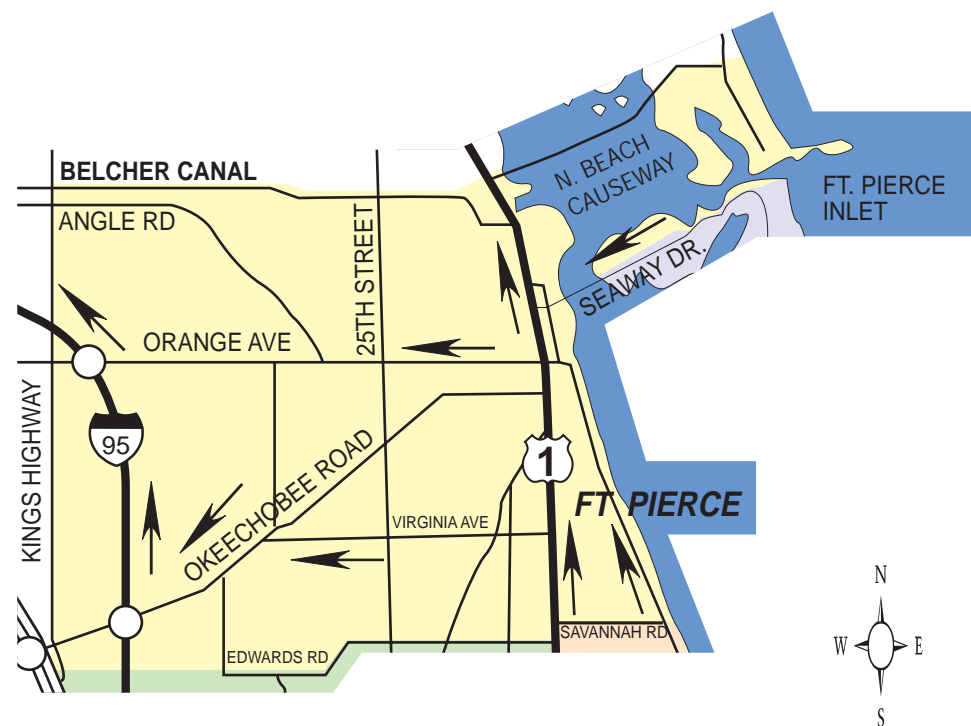
AREA 1

Emergency
Planning Areas

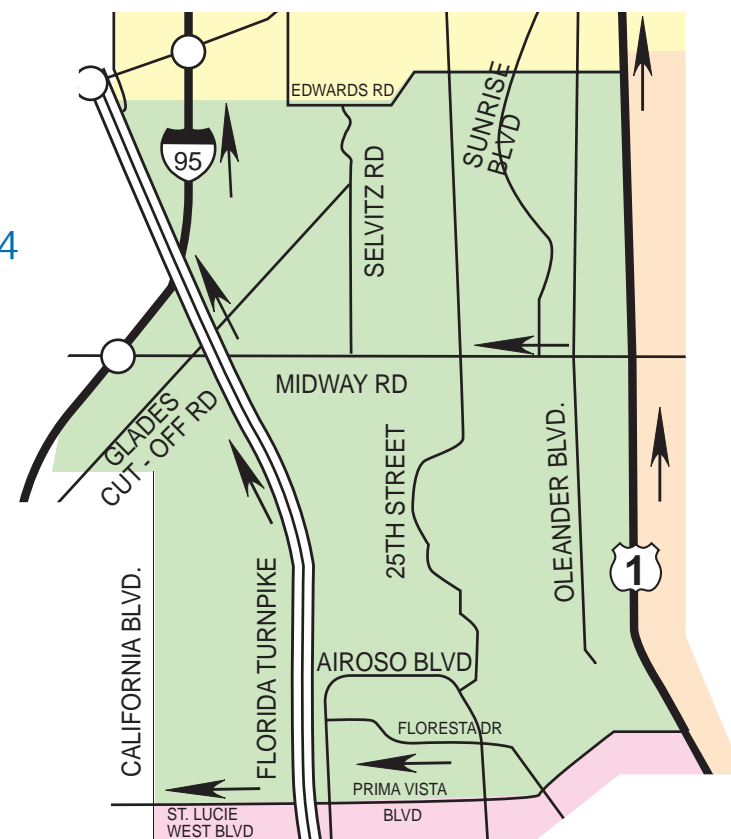
AREA 2



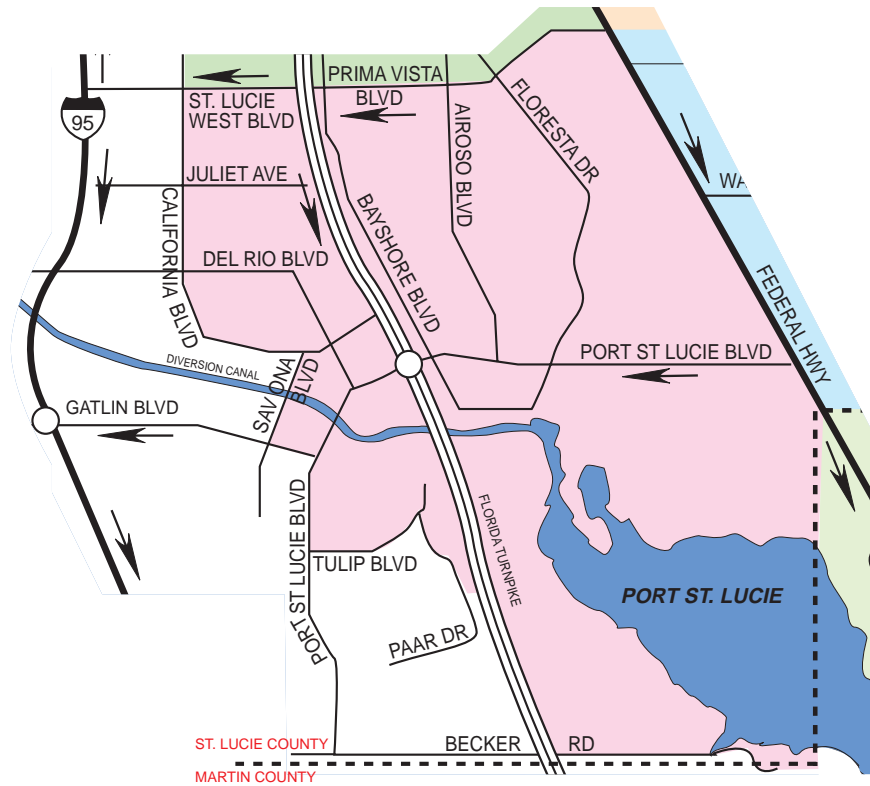
AREA 3



AREA 4

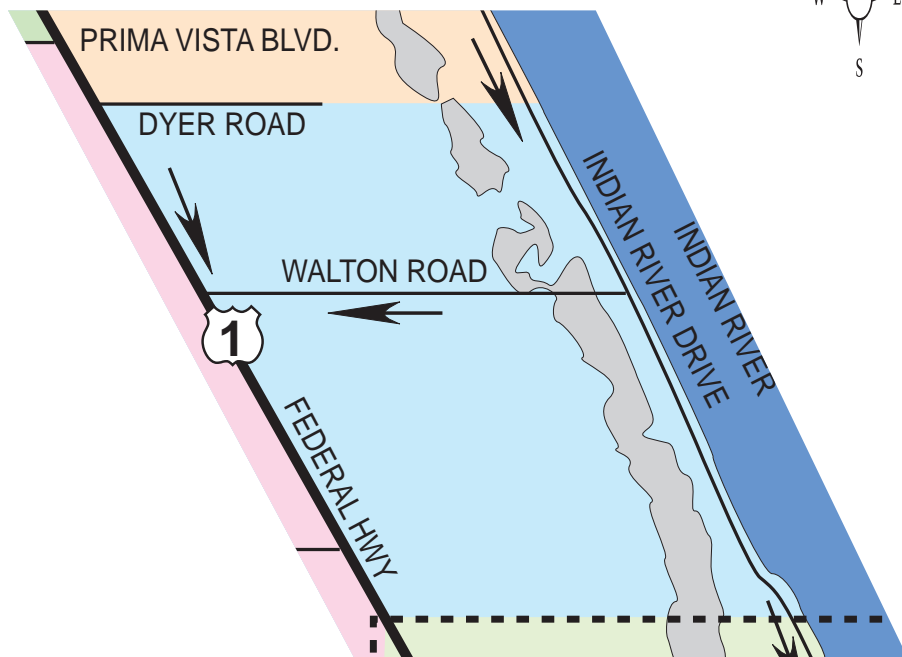


AREA 5

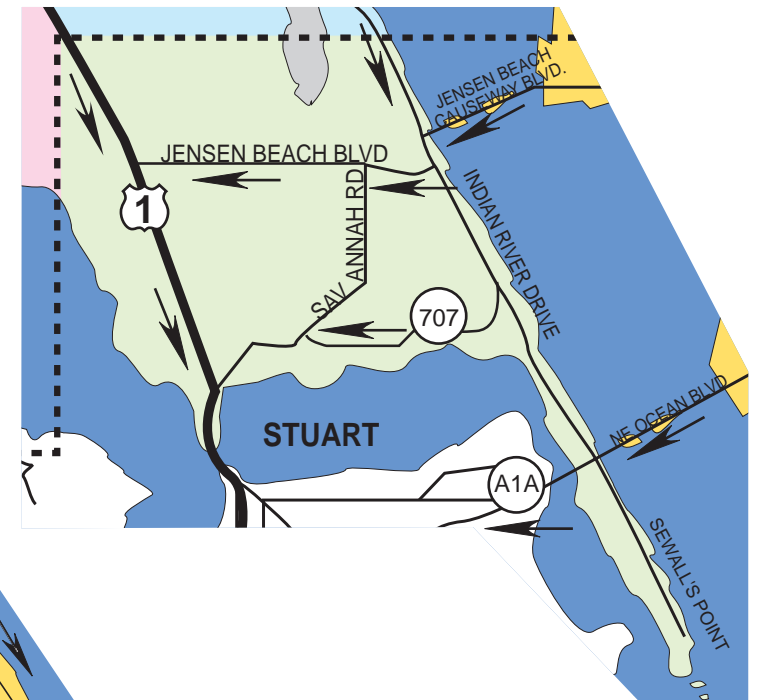


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AREA 6

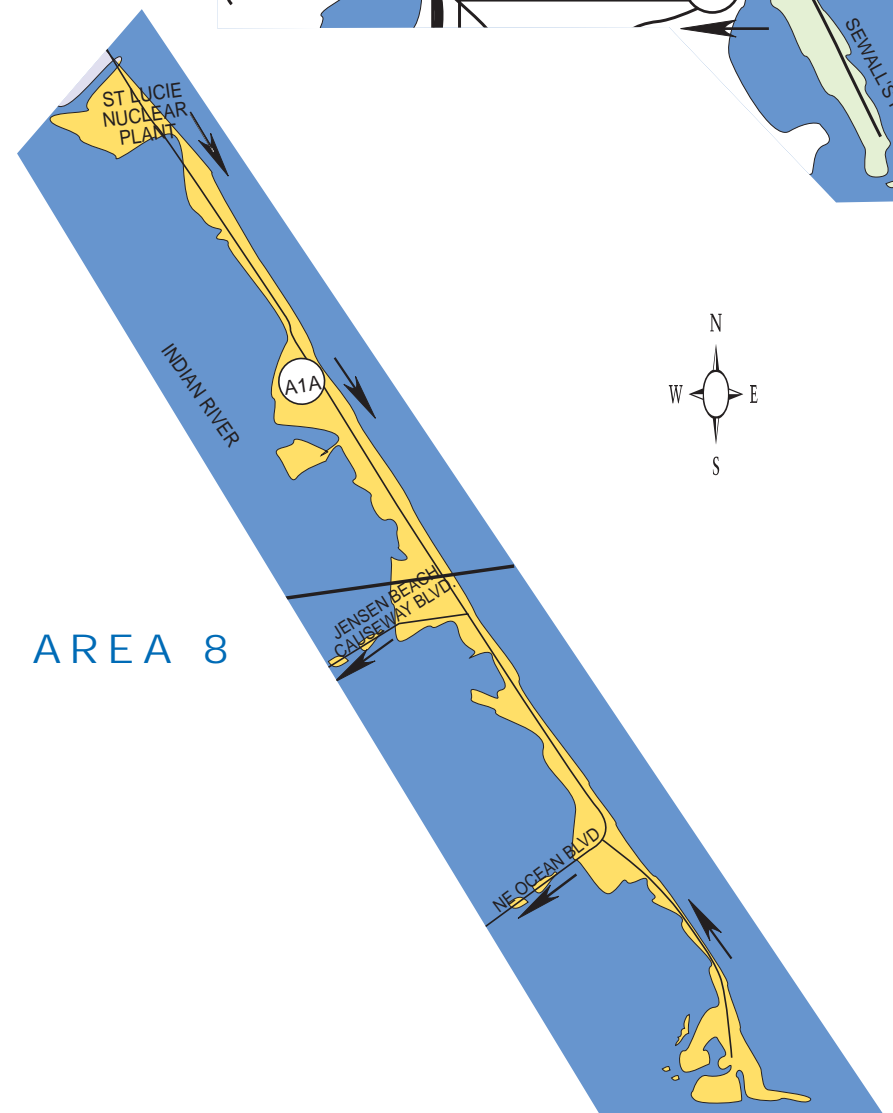


AREA 7



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AREA 8



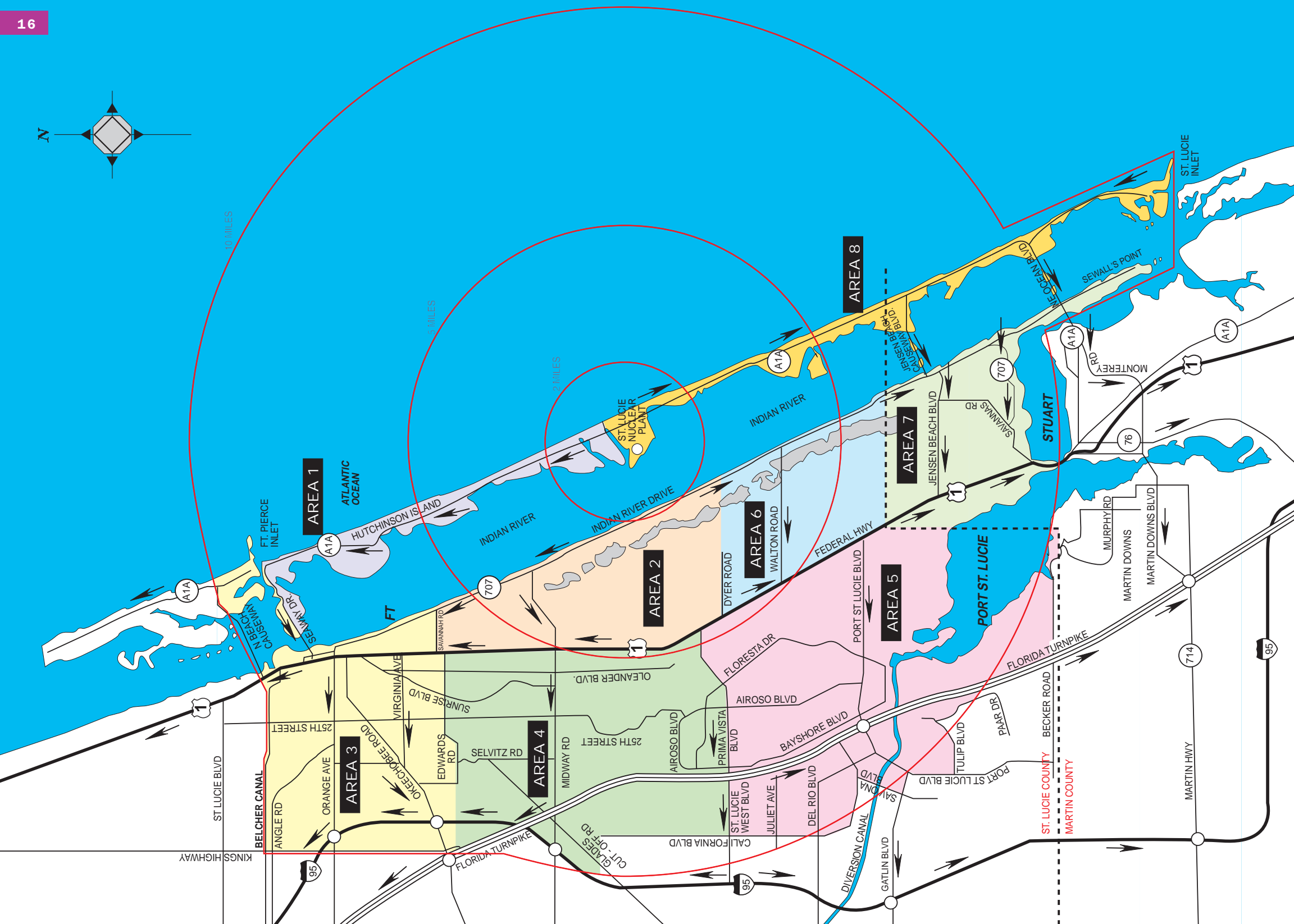
EVACUATION ROUTES

■ This map shows the area within 10 miles of the St. Lucie nuclear plant and suggested evacuation routes, along with additional roads to be used as landmarks.

■ Locate the areas where you live and work, and determine the most convenient evacuation route from your residence and place of business.

■ For quick reference, when you have determined your evacuation route, write the information on the detachable card at the back of this booklet.

■ Please check area enlargements on previous pages for the area in which you live.



FOR QUICK REFERENCE

Sirens - If you hear an outdoor warning siren, immediately tune to local radio or television stations for further instructions. An emergency siren sounds for at least 5 minutes; a siren test lasts only about 2 minutes. Hearing a siren **does not** necessarily mean to evacuate. If possible, alert your neighbors.

Special Needs - If you have special emergency needs (such as physical or mental impairment, elderly and homebound, or don't drive), fill out the business reply card inside this booklet for the appropriate county in which you live, and mail it immediately. Special arrangements will then be made for your care in the event of an emergency.

Children in school - If your children attend schools in the emergency planning area (see pages 8-9), **please do not try to pick them up**. Schools follow their own evacuation procedures, which will be explained on local radio and television stations.

Emergency numbers:

- **St. Lucie County Public Safety Department - 461-5201**
- **Martin County Division of Emergency Management - 287-1652**

Radio and TV stations St. Lucie and Martin counties

AM RADIO

WJNX-1330	WQCS-88.9*	WKGR-98.7
WIRA-1400	WZZR-92.7	WHLG-101.3
WSTU-1450*	WGYL-93.5	WAVW-101.7
WPSL-1590*	WOVV-95.5	WQOL-103.7
	WOSN-97.1	WFLM-104.7

FM RADIO

TELEVISION**

WPTV-CH 5	WFLX-CH 29
WPEC-CH 12	WTCN-CH 16*
WPBF-CH 25	WTVX-CH 34

EVACUATION ROUTES

Study the map, and make a note here of your evacuation route from home and work.

If you are told to evacuate, take this booklet with you.

I live in area _____

Evacuation route: _____

I work in area _____

Evacuation route: _____

School pick-up point: _____

Shelter supplies packed: (see page 6) _____

Pets and livestock cared for: _____

*Primary Emergency Alerting System station
**Consult area cable listing for these channels.